



THE B.C. FOREST SERVICE

No. 32

A newsletter for employees of the Ministry of Forests

May/June, 1989

Skilled crews at heart of fighting forest fires

B.C. Forest Service firefighting crews have been kept very busy this year, particularly during the first weeks in June when fast-spreading fires required quick, aggressive initial attack.

By mid-June there had been 908 forest fires in the province. The 10-year average number of fires to that date is 582.

It takes more than one thousand people to make Forest Service fire suppression an ongoing success.

There are 580 firefighters in the unit, firetack, rapattack, and helitack crews alone. This total doesn't include people in 56 duty offices and 81 primary look-outs throughout the province.

There are six overhead teams and three fire information support teams who can be called in, plus 642 fire wardens and fire prevention officers, who serve as auxiliary personnel.

There are an estimated 420 municipal and regional district fire departments which become essential to Forest Service efforts in fighting 'interface fires' near communities.

Additional 20-person unit crews are currently being trained to help battle blazes in B.C. forests this summer, including native people from non-urban communities.

Organization, communication and skill are needed to make this large group work together as one. There is also a sense of comradeship, especially among crew members, that contributes to the success story.

During the next few months we will introduce you to some of the people who make up this huge team. If there is a particular area of fire suppression you would like to know about, call us at 387-8489.

Top people in new positions

Roger Ennis, 43, has been appointed director of the ministry's industry development and marketing branch. He assumed his position on June 1.

Ennis, former president of the Interior Lumber Manufacturers' Association in Kelowna, has extensive experience in woods management, forest engineering, forest land administration, timber and land valuation, forest consulting, market and business development, and wood products research and development.

He holds a forestry degree and urban land economics diploma, both from the University of British Columbia.

Summer schedule

During the summer months the Forest Service newsletter will be published once every two months. The next issue will be for July/August, and monthly publication will resume in September.

Your story ideas are still needed for summer and early fall issues.

Bronwen Beedle, 37, has been appointed manager of the Fort Nelson forest district, effective May 23.

Beedle is the first woman to be appointed to the position of district manager in the Forest Service.

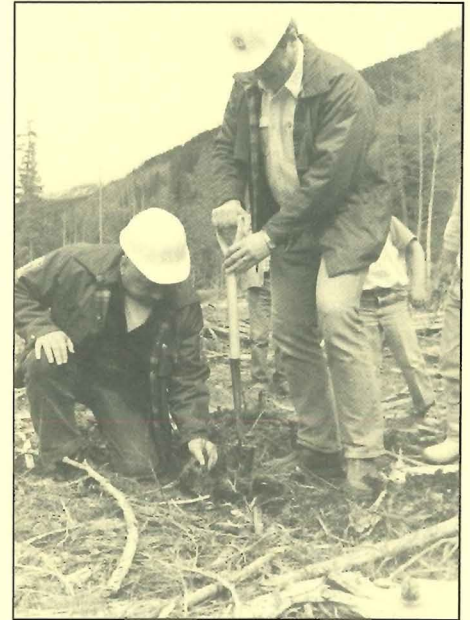
After receiving a Bachelor of Science degree in forestry from the University of British Columbia, she worked as a land manager with the former Ministry of Lands, Parks and Housing, then became a forester with Weyerhaeuser Canada Ltd. in Vavenby, B.C.

In 1988 Beedle received her masters degree in business administration from Queen's University in Ontario.

Harry Powell, 42, is the new director of the ministry's human resources branch, following a recent competition.

He was formerly assistant director of the branch, which he joined in 1980.

Powell, who holds an honors degree in psychology from Carleton University in Ottawa, was previously employed by Canada Post in human resources.



Gerry Dodd, Kalum forest district manager and Forests Minister Dave Parker plant the 50 millionth tree with gold-plated shovel, which was later presented to Dodd.

50 millionth tree peak of the week

The 50 millionth tree in the Kalum forest district was planted on May 7 by Forests Minister Dave Parker and Gerry Dodd, district manager, focusing district and community National Forest Week events on one symbolic moment.

"It was a real community event," said Bob Wilson, resource officer, silviculture.

Close to 100 boy scouts and their families joined in planting as part of their annual Trees for Canada "dig day."

The event signalled the start of National Forest Week and anticipated the opening of the new Kalum district office a few days later on May 12.

"It was kind of a nice way to roll everything into one," Wilson said.

The boys were able to spend time talking to Parker and Dodd at the planting site 35 kilometres east of Terrace.

The 50 millionth tree was a western red cedar (B.C.'s official tree) and will take between 80 to 100 years to mature.

— submitted by Ian Bowie and Bob Wilson, Kalum forest district

Calculating the annual cut

Here are some facts about the allowable annual cut (AAC) from the province's forest lands:

- in 1988 the total AAC for the province's regulated lands was 72 million cubic metres; and,
- that was also the amount harvested from those lands.

Sometimes, a higher number is quoted. Any higher numbers include the cut from unregulated and private lands, over which the Forest Service has no jurisdiction.

The Forest Service does not allow

companies to perpetually overcut their allocated volumes.

If licencees exceed their total AAC over a five-year period, they must reduce their cut over the next five-year period.

Companies are charged twice the standard stumpage rate if they overcut. Ultimately their licence can be suspended or cancelled.

The table on the right shows how the AAC and actual harvest add up, in millions of cubic metres of timber.

Year	Regulated Lands*	Unregulated Lands**	Total
	AAC	Actual harvest	
1988	72	72	14
1987	72	78	12
1986	73	68	
1985	72	67	

* includes TSAs and TFLs

** includes private, timber licences and licences to cut federal lands

Annual report

How big was the largest fire during 1987-88? How much balsam, or hemlock was exported? How many bridges and culverts were built?

These are just a few of the questions answered in the ministry's 1987-88 annual report tabled in the legislature on June 1.

The effects of amendments to the *Forest Act* approved by the legislature in December 1987 will be reflected in the next annual report, which will not include Lands.

The amendments transferred costs and responsibility for ensuring that forests are replaced, from the government to the companies harvesting timber. Regulations to implement the amendments were approved by the government shortly after March 31, 1988.

The privatization of nurseries, which was announced in February 1988 will be reflected in the next annual report as well.

Under the *Forest Act*, the ministry is required to publish the annual report to describe its activities. Two other reports are also required: The five-year forest and range resource program, which was recently tabled in the legislature; and, a periodical forest and range resource analysis.

All regions, districts and branches have been provided with copies of the new annual report.

A limited number of copies are available and can be purchased through Crown Publications, 546 Yates Street, Victoria, B.C., V8W 1K8, phone: 386-4636. The cost is \$5.50 plus six per cent sales tax.

Planting program bounces back from coldsnap losses

Despite the loss of 7.5 million spruce seedlings in two Forest Service nurseries in Surrey, this year's planting program is expected to be the largest ever.

Sometime this year the total number of seedlings planted will pass the two-billionth mark.

It took 50 years to plant the first billion seedlings, seven years to plant the second billion, and it will take just three years to plant the third billionth seedling in 1992.

Due to extreme cold temperatures and winds in January and February 1989, seven million seedlings were lost at the Surrey Nursery and half a million were lost at Green Timbers.

Most of the seedlings were to be planted this summer.

To partially replace the losses, 4.7 million seedlings are now being sown at both nurseries.

In addition, four million seedlings,

scheduled for planting next year, will be planted this summer to further alleviate the losses.

It is expected that the 1989 planting goal of 231 million seedlings will still be met. The rate of planting will soon reach 300-million seedlings a year.

The spruce seedlings were growing outdoors when record temperatures were experienced.

Steps have been taken to prevent losses of this magnitude from occurring again.

One such step would be to place styroblock-container seedlings on the ground, rather than on pallets. This would help to keep the roots warmer.

Another measure, would be to place pallets above seedlings to cut down wind velocity.

Forest companies that would have received the seedlings have been informed of the losses.

Carmanah communications

Forest Minister **Dave Parker** says he has written to Federal Environment Minister **Lucien Bouchard** to assure him that the province intends to preserve the giant Sitka spruce groves in the Carmanah Valley on Vancouver Island.

In the letter, Parker asked Bouchard to provide the Forest Service with all of the information and specific technical

advice that Canada Parks Service would like to contribute or discuss, including their options for a national park and the federal minister's preferences.

The B.C. Forest Service is currently analyzing the management proposal submitted by MacMillan Bloedel, the company which holds the tree farm licence that includes the Carmanah Valley,

Tree-growing champs youngest of all



Mrs. Clifton's Grade 1 class won first-prize helicopter ride in tree-growing contest.

An entire Grade 1 class will take a helicopter ride around Kaien Island as their reward for growing the tallest tree in a contest sponsored by the North Coast forest district timber supply area steering committee.

For six weeks, 90 elementary school classes in the Prince Rupert area used whatever they thought it would take to raise a winning tree from a six-inch cottonwood stick.

The Grade 1 children from Roosevelt Elementary School were excited about winning the helicopter ride, but they were also thrilled by growing a taller tree than the children in Grade 7, said district manager, **Gary Adolph**.

A plaque on their classroom wall will remind them of their tree-growing achievement long after their helicopter ride is over.

Sechelt Junior Forest Wardens most active

Doing "real stuff" has been the winning recipe for the Sechelt Junior Forest Wardens. They received the JFW trophy for the third year in a row during National Forest Week celebrations on May 9.

They weren't afraid to get their hands dirty when they were surprised with a row of Forest Service trucks — just off the fire line — during a truck wash they organized to raise money for their local group.

Because older group members performed so well during their participation in an actual prescribed burn, they received their fire honor badges along with the JFW trophy from **Jim Dunlop**, director, protection branch.

This JFW group has harvested Christmas trees, gone snowshoeing and skiing, and have eaten in a real logging camp cook house.

Meaningful activities are usually planned with the younger group in mind. They participate in gathering and selling kindling. They also like to get their feet wet in creeks, by hopping in with their lifejackets and catching live fish with their bare hands for the salmon enhancement program.

The Sechelt club was started five years ago. Leader, **Malcolm Cattanach**, field



The Sechelt Junior Forest Wardens and leaders with Forests Minister Dave Parker, receive the JFW trophy for the third year in a row. Photo: Al Price

operations supervisor, Sechelt field office, attributes the club's success to the willingness of organizers to get the children involved in challenging projects and parents' enthusiasm.

"Without parents the whole thing would fall flat on its face," he said.

Right now, the club has a three-year waiting list because nobody wants to quit.

Malcolm and the other four leaders — **Bill Wright** and **Tom Wright** of Witherby Tree Farm; **Gordon Skertchly**, Canadian Forest Products; and, **Sandie**

Reid, Pathfinder leader — have tried working with larger groups, but found it compromised the program's quality.

Just thinking

- How many times in one day do you use the word 'forest'?
- Is it the person who makes a job interesting, or is it the job that makes a person interested?

Small business

A new wood processing operation in Port Alberni, aimed at Japanese markets and using timber purchased under the Small Business Forest Enterprise Program, will create 155 new jobs.

The \$17 million venture by AC Mokko Manufacturing Ltd. is the first major investment under the program.

In Princeton, a new wood processing operation using timber purchased under the small business program, will create 25 new jobs.

Mego Wood Products Ltd. proposes to build a 13,000-square-foot operation in Princeton and has been offered a timber sale licence to harvest 84,461 cubic metres of wood in the Merritt forest district over the next five years.

Green Gold results

In the Quesnel forest district, with the aid of a 'Green Gold' grant funded by the Forest Resource Development Agreement (FRDA), foresters have completed an up-to-date fact sheet on the forest resources, practices and accomplishments of their district.

The fact sheet was produced by the Association of B.C. Professional Foresters, Cariboo regional public affairs committee. Robert Merta, resource officer, inventory, coordinated statistics gathering as well as program outlines from the protection, silviculture and timber sections.

— submitted by **Deborah Lipscombe**
correspondent

Editor's note: An announcement about 1989-90 Green Gold Grants is expected in the near future.

Vanderhoof to get new district office

Construction will start soon on a new office for the Vanderhoof forest district off Highway 16, on a site southeast of Vanderhoof.

Norwood Project Management Ltd. of Vancouver will oversee the construction of the one-storey, 1 276-square-metre office and warehouse. In addition to this facility, there will be storage buildings and a helicopter pad.

Construction is expected to be completed by the end of the year.

WOOD

The s

Many of us never get beyond the grain in our relationship with wooden buildings and objects that surround us.

But wood scientists are getting deeper and deeper into the structure and essence of wood. This can reveal everything from earthquakes' history and native peoples' past harvesting practices to solutions for increasing the quality of 'juvenile wood' in second-growth forests.

Leonardo da Vinci was the first western thinker to suggest the most commonly known branch of wood science: dendrochronology (the study of time and events through tree-ring analysis).

Dendrochronology is a word big enough to trip over, but it helped Les Jozsa, a Forintek research scientist, get across the Canada - U.S. border one time.

The border guard asked Jozsa, "what is your business," and he replied, "tree-ring analysis."

"What do you mean?" the guard asked. So Jozsa's colleague in the car spoke out: "dendrochronology."

"Ahhh," said the guard, appearing to understand, and waved them across.

Dendrochronology comes in handy for more than getting past border guards.

It is used by:

- archeologists to date artifacts;
- foresters to assess forest management practices;
- climatologists to predict climate before weather records were kept;
- environmentalists to determine the harmful effects of air pollution;
- geologists to date landslides, earthquakes, forest fires and volcanic eruptions; and,
- criminologists to verify thefts or murder weapons.

For geologists and archeologists, dating is a glue that holds theories about the past together.

"Wood is an ideal medium for

this," says **Peter Bobrowsky**, a geologist at the Pacific Geoscience Centre near Victoria.

"Trees have a fantastic record preserved in them."

Dendrochronology is more reliable than other absolute dating methods such as radiocarbon analysis, especially for the recent archeological and geological past.

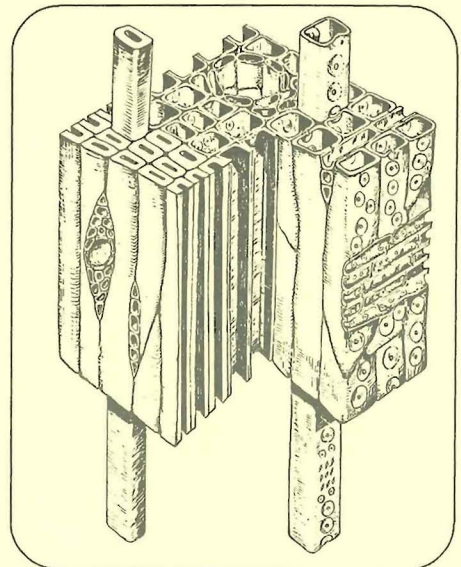
Tree-ring analysis helps Bobrowsky in his present task of documenting coastal B.C. Earthquakes from the very recent geological past: the last two million years, known as the Quaternary period.

The knowledge of past earthquakes allows geologists to estimate the probability of future earthquakes.

Tree-rings revealed a previously unknown southern San Andreas fault earthquake, and tree-rings recorded the impact of the 1964 Alaska earthquake (Sheppard and Jacoby, 1989).

Drastic growth reductions, beginning in 1813, were recorded in tree-ring samples taken from conifers on a trace fault near Wrightwood, California.

Researchers determined that an earthquake, in December 1812, with a magnitude of 7.5, had caused the



The three-dimensional structure of wood is revealed when magnified 400 times.



ilent storyteller

growth reductions in the trees. The earthquake was named "San Juan Capistrano" (Jacoby et al., 1988).

In Alaska, shoreline trees which were shaken and tilted by the 1964 earthquake reacted with initial growth reduction. Then, to regain an upright position, they grew wider rings of wood on their south sides (Sheppard and Jacoby, 1989). These subtle reactions to earthquakes were revealed by tree-ring analysis.

There are hundreds of years recorded in the tree-ring samples stored in the basement of Morley and Ann Eldridge.

A Victoria archeologist, Morley surveys scheduled harvest areas looking for 'culturally modified' trees. These are trees which show evidence of being harvested by people hundreds of years ago.

Morley records this evidence to determine the impact of timber harvesting on the heritage resource.

Many of these trees, still standing, show the scarring of bark stripping and plank cutting by native loggers.

When Morley brings home a slice of a culturally modified tree, Ann uses tree-ring analysis to discover things like when, and how many times the tree was stripped of bark.

The information they gather can also be useful to archeologists and ethnologists who reconstruct past ways of life.

Future applications

Methods that reveal the anatomy of wood are becoming increasingly important to silviculture and the future of B.C.'s forest industry.

Aided by computerized X-ray densitometry, Les Jozsa and Jane Richards of Forintek Canada Corp. can read the fine lines of growth rate and wood density in trees.

With this method, a single five-millimetre ring can be dissected into 200 parts.

Used on a larger scale, X-ray den-

Morley Eldridge shows unusual features which indicate past bark stripping from tree.

The trunk of the tree grows around the area damaged rather than replacing the bark.



juvenile wood - wood formed near the pith of the tree, often characterized by wide growth rings, lower density and shorter fibers.
mature wood - produced after juvenile phase, usually in crown-free portion of stem.

sitometry can show the density changes that mark the border between juvenile and mature wood in a young tree.

Juvenile wood from second-growth forests will have an impact on the premium that coastal Douglas-fir now commands on world markets.

Old-growth coastal Douglas-fir trees have a high percentage of high-density mature wood and a low percentage of low-density juvenile wood in their cores.

Second-growth coastal Douglas-fir has a higher percentage of juvenile wood.

Low-density juvenile wood is prone to greater shrinkage along the grain than mature wood, and is made up of relatively short fibres.

Further research done at Forintek indicates that boards made of mature wood can handle pressures of 830 kilograms per square centimetre, while boards made of juvenile wood can only handle 550.

The Forest Service is currently working with Forintek and industry to develop ways to compensate for the impact of juvenile wood.

One strategy confronts the problem

before and while trees are grown. Forintek researcher Josefine Gonzalez states in the *Forintek Review*, that "the earlier a tree improvement program can assess the progeny's density, the better its chances of using density as a criterion to choose trees for the managed forest."

Methods, like X-ray densitometry, can detect which trees will pass on higher wood density to their offspring.

Forintek has also developed an instrument that will allow foresters to simply and accurately measure wood density in the field.

Other strategies to reduce the impact of juvenile wood could evolve in the lumber market. Here are some possible solutions:

- revise lumber grades to recognize individual boards' strength;
- encourage coastal mills to install stress-grading equipment;
- separate weak lumber and prevent it from lowering the overall species' standard; and,
- capitalize on the strength of boards which widely exceed existing standards.

The wood science arena is worldwide, with many branches that support one another, yet lead into completely different fields of enquiry. If you would like to learn more about them, write to the Forest Service newsletter for contacts.



Nils Sjöberg and Howard Yerex apply love of invention to growing trees.

Silviculture touches many

'Silviculture' was a foreign word to many people who attend the Cubbon Adult Daycare Centre in Victoria, until Nils Sjöberg, development officer, was invited over by Howard Yerex, a retired Forest Service employee.

"They're still talking about it," said Howard, who attends the centre regularly.

Nils received many positive comments about his presentation, which included slides, a film, and handouts of pins and seedlings.

One of the participants, Jane Simons was reminded of her family and friends in the Sayward region when she held a seedling given out after the presentation.

Even those with no ties to silviculture or the forest industry found something to talk about.

One woman told Nils appreciatively, "I really like trees."

The session also gave the participants a better insight into Howard's work for the Forest Service.

"He's quite a talent," Nils said of his former co-worker. Howard had no formal training as a machinist-cum-inventor, but "over the years he's done just about everything."

His ingenuity played a big part in getting the Forest Service's seedling container method into operation.

Howard vividly recalls the projects that challenged him, and takes a matter-of-fact pride in his problem-solving ability.

"They (nurseries) wanted automatic watering systems. So I thought about it for a time and said, 'okay, I'll build you one.'"

Howard officially retired from the Forest Service in 1977, but he never retired from his love of invention.

Although he has been blind for many years, he keeps on making things — only needing a little help with the wiring.

His latest project is a colorful light and sound system for the centre.

And, like any good inventor, Howard always sees room for improvement.

Williams Lake office houses 41 employees

A new Forest Service office was officially opened in the Williams Lake forest district recently.

Chief forester John Cuthbert attended the opening ceremony along with Williams Lake Mayor Ray Woods, and local MP Dave Worthly.

The new 1057-square metre building is located at 925 North 2nd Avenue, in Williams Lake.

Construction began last September and

was completed by February this year.

In 1920 the first forestry office was opened in Williams Lake. In 1932 it was amalgamated with the Kamloops forest district. In 1979 the Williams Lake ranger district became the forest district that it is today, with an administrative area of just under one million hectares of Crown land.

—submitted by Alex Maas,
Williams Lake forest district

Bright idea

It must have been the beautiful new surroundings of the Kalum forest district office that inspired Bob Wilson, resource officer, silviculture, to play a joke on his fellow employees soon after the office was officially opened May 12 by Forests Minister Dave Parker.

Bob put up a notice that all blinds were to be kept closed so the new windows could be washed.

"It worked quite well," Bob said. Everyone kept their blinds closed until about 11 a.m., when he announced over the PA system that the international union of window-washers were on strike.

Someone turned the tables on Bob by announcing that everyone was invited to a barbecue at his house that evening. Luckily, Bob had left his PROFS terminal on and noticed the invitation in time to cancel it.

Summer workshop

The Southern Interior Silviculture Committee summer workshop will be held in Merritt, August 16 - 17.

Registration packages will be available in early July, and registration is limited.

The theme of the workshop is Managing Mid-Elevation Forests - An Integrated Resource Perspective.

For details contact: Ken Collingwood, phone: 378-9311, or Abbey Bates, phone: 828-4169.

New lookouts

Two new fire detection lookouts in the Fort St. John forest district are in operation for the 1989 forest fire season.

One is located at Gleam, in the north central part of the district. The other at Mile 109 on the Alaska Highway, is known as the Wononine site.

The district's fire detection capability will be substantially increased by the addition of the Wononine lookout. It is strategically located to cover the district's major timber and silviculture interest areas, and will also provide extra security for the community of Wonowon and oilfield improvements along the Alaska Highway.

—submitted by: Don Courson
Fort St. John forest district

A day at the B.C. Forest Museum



Above: Hard day on the railroad for one of 22 volunteers who work at the museum 9:30 a.m. to 6 p.m. daily from May to September.

Right: Ice-cream at Alderlea Station is a welcome treat after completing the Forester's Walk. Other tours on the 40-hectare museum grounds take you by a blacksmith's shop, a logging camp, a ranger station and Somenos Lake farm.

Below: Jenifer Burns, Miss B.C. Forest Museum, and engineer Ralph Davies greet visitors at the 25th annual opening.

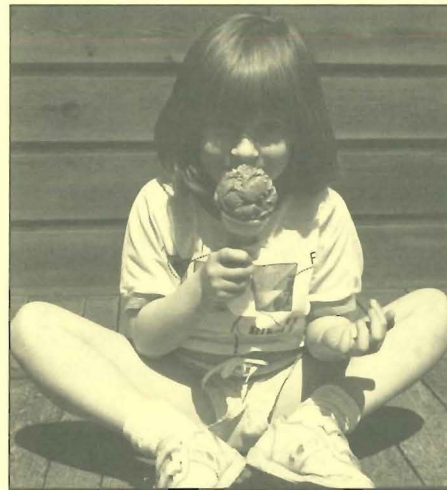


The B.C. Forest Museum celebrates its 25th anniversary this year with extended hours, a new display wing and family memberships.

Located 60 kilometres north of Victoria, near Duncan, the museum is an interesting place to soak up history.

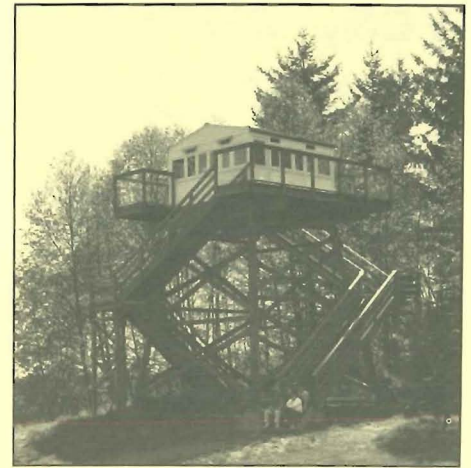
A steam locomotive circles the grounds frequently, while displays and artifacts take you back in time.

For information about guided tours, admission prices and attractions, phone: 746-1251.

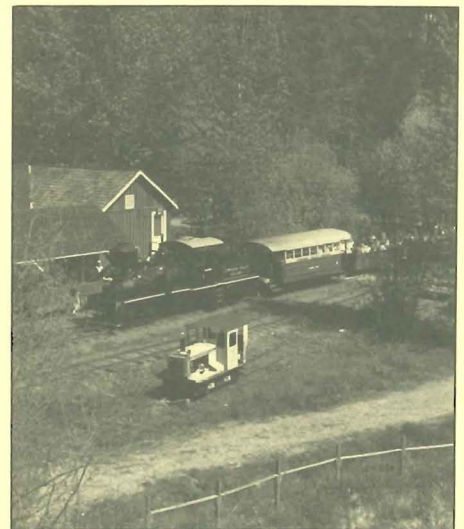


Right: The Cowichan Valley train puffs and chugs around historic site; through the woods and over scenic Somenos Lake tressel. Around 75,000 visitors are expected this year.

Below: Hand car is a unique hands-on experience. Nearby playground, picnic area, logging displays and log museum, provide lots of entertainment.



Top: Visitors rest in the shade of lookout tower, one of many authentic structures relocated on the museum grounds.



Working well Smart VDT-use easier on eyes, bones and muscles

Video display terminals: who doesn't use one, and who isn't concerned about the possible harmful effects of the radiation we receive from them?

But in the wake of the radiation scare, it appears that the majority of VDT-related health problems are associated with our eyes, bones, muscles and psyche.

No scientific evidence to date indicates that radiation from VDTs is hazardous to our health. Although more research is being done to determine the possible long-term effects of low-level radiation.

One of the best ways to prevent the discomfort, dissatisfaction and health problems of VDT use is to have a positive attitude toward your equipment.

You will probably feel less isolated if you know your machine and under-

stand your role in the overall process.

If you are not happy and comfortable at your work station, anxiety may cause both psychological and physiological stress that can lead to illness.

Even operators who are in good health may experience VDT fatigue, through a sustained effort to see clearly and sit in one position.

This is because the body and the eyes are designed for movement.

A fixed body position is much more tiring than a dynamic one, and prolonged attention to visual detail with reduced eye movement, when coupled with a lack of auditory stimulation, can cause fatigue and eye strain. The irritated, heavy, dry, burning symptoms of eye strain may indicate a more general fatigue, and are sometimes associated with headaches and focusing difficulties.

Although there is little likelihood that VDTs produce damaging or disabling eye conditions, they do place special demands on operators.

Regular eye examinations, with VDT use in mind are recommended, because eyeglasses prescribed for reading may not match the viewing distance of either the VDT screen or the keyboard.

Without a sufficient range of focus, a person may unconsciously resort to bad posture in order to see better.

The quality of the VDT display image and the presence of glare can also affect operators.

For example, if bright light sources or their reflections fall within your field of vision, you may experience eye discomfort or avoid the glare by adopting poor posture.

Back problems are caused mainly by incorrect work place designs which lead to poor posture and muscle tension.

You should be able to comfortably reach and operate all controls and read the display.

The Workers Compensation Board can supply more detailed information on the 'ergonomics' (planning and adapting of equipment or tasks to promote comfort and efficiency) of VDT use.

— source: *Working with Video Display Terminals*, Workers Compensation Board of B.C.

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Submissions are encouraged. Please send your comments, suggestions and contributions to Ben J. Pires, Manager, Publications and writing Services, Public Affairs Branch, Ministry of Forests, 1450 Government St. Victoria V8W 3E7.

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Memos help ... or hinder

Before writing a memo, remind yourself that what you write could come back to haunt you — sometimes months and even years later.

How to use memos:

Memos can create political fallout. Before writing a memo listing the problems another branch has caused your branch, stop to consider whether you'll seriously damage the relationship between the departments. You might be better off discussing the problem face-to-face.

Memos are best used to confirm something — not to announce a new policy.

Memos shouldn't be used to deliver bad news. Do that in person. Written words can create doomsday overtones. But if you must cite something negative, include as many specifics as possible. Memos shouldn't be used to accuse or threaten people unless your facts are above reproach. Consider what might happen if a management change should occur. Your memo could surface and be used against you.

Memos are effective for congratulating others on promotions, awards, etc.

— source: *Communication Briefings*